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A. CLASSIFICATION OF SUBJECT MATTER INV. C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, EMBL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
WO 2005/024046 A (ISIS PHARMACEUTICALS INC [US]: ECKER DAYID J [US]) 17 March 2005 (2005-03-17) the whole document	2-45, 63-69
DATABASE WPI Week 200454 Derwent Publications Ltd., London, GB; AN 2004-556368 XP002462655 & JP 2004 201641 A (MITSUBISHI YUKA BCL KK) 22 July 2004 (2004-07-22)	1,61,62
abstract  & JP 2004 201641 A (MITSUBISHI KAGAKU BIO CLINICAL) 22 July 2004 (2004-07-22)	2-45, 63-69
	WO 2005/024046 A (ISIS PHARMACEUTICALS INC [US]; ECKER DAYID J [US]) 17 March 2005 (2005-03-17) the whole document  DATABASE WPI Week 200454 Derwent Publications Ltd., London, GB; AN 2004-556368 XP002462655 3 JP 2004 201641 A (MITSUBISHI YUKA BCL KK) 22 July 2004 (2004-07-22) abstract  & JP 2004 201641 A (MITSUBISHI KAGAKU BIO

X Further documents are listed in the continuation of Box C.	X See patent family annex.
Special categories of cloud documents:  "Occurrent exhibits his promot diset of the ast which is not contracted to the of particular relevance.  "En entire occurrent but published on or other the international fing cates  the contract occurrent but published on or other the international fing cates  the contract occurrent but the contraction of the cont	The bear document problems due that his three strong ling side of property calls and not a procession with the expenditure of the contractment of the principles or theory underlying the chief to indicate the principles or theory underlying the contractment of the co
Date of the actual completion of the international search  17 December 2007	Date of mailing of the International search report  15/01/2008
Name and mailing address of the ISA/  European Patent Office, P.B. 5818 Patentikan 2  NL – 2200 IV Pijavrijk  Tel (+31-70) 340-3050, Tx. 31 651 epo ni,  Fixx: (+31-70) 340-3016	Authorized officer  Cornelis, Karen

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT Category\* | Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Α SAMPATH RANGARAJAN ET AL: "Rapid identification of emerging pathogens: coronavirus" EMERGING INFECTIOUS DISEASES, EID, ATLANTA, GA, US, vol. 11, no. 3, March 2005 (2005-03), pages 373-379, XP002454984 ISSN: 1080-6040 Α WO 01/07648 A (ARTUS GES FUER MOLEKULARBIOLOG [DE]: KRUPP GUIDO [DE]: SCHEINERT PETER) 1 February 2001 (2001-02-01) P.X SAMPATH RANGARAJAN ET AL: "Rapid 1 - 63identification of emerging infectious agents using PCR and electrospray ionization mass spectrometry." ANNALS OF THE NEW YORK ACADEMY OF SCIENCES APR 2007. vol. 1102, April 2007 (2007-04), pages 109-120, XP002462629 ISSN: 0077-8923 the whole document

International application No. PCT/US2007/066194

Box No. 1 Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1.	With	regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed nition, the international easier was carried out on the basis of:
	a.	type of material
		X a sequence listing
		table(s) related to the sequence listing
	b.	format of material
		X on paper
		X In electronic form
	c.	time of filing/turnishing
		contained in the international application as filled
		filled together with the international application in electronic form
		X furnished subsequently to this Authority for the purpose of search
2.	Х	In settion, in the case that more than one version or copy of a sequence listing and/or table relating hereto has been filled or furnished, the required statements that the information in the subsequent or additional copies is denical to that in the application as filled or does not go beyond the application as filled, as appropriate, were turnered.
3.	Add	Itional comments:

	Informa		International application No PCT/US2007/066194			
Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 2005024046	Α	17-03-2005	NONE			
JP 2004201641	Α	22-07-2004	NONE			
WO 0107648	A	01-02-2001	AU EP	537109 119859	9 A 7 A1	13-02-2001 24-04-2002